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Please note that this draft proposed regulation is for preliminary review by the public as ARB considers multiple options.

DRAFT Proposed Regulation Order

REGULATION FOR SULFUR HEXAFLUORIDE USE AND SALES

Adopt new Subchapter 10, Article 3, Subarticle 3, Sections 95340 - 95347, Title 17, California Code of Regulations, to read as follows:

§ 95340 Purpose

The purpose of this control measure is to reduce sulfur hexafluoride emissions pursuant to the California Global Warming solutions Act of 2006 (Health and Safety Code, sections 38500 et.seq.).

§ 95341 Applicability

- (a) Except as provided in this section, this Article applies to any person that uses, buys, manufactures, offers for sale, or sells sulfur hexafluoride or products containing sulfur hexafluoride in California.
- (b) Exemptions through Section 95344:
 - 1. Chemical vapor deposition (CVD) chamber cleaning,
 - 2. Etching,
 - 3. Dielectric medium including equipment containing sulfur hexafluoride for use as a dielectric medium,
 - 4. Arc quenching medium including equipment containing sulfur hexafluoride for use as an arc quenching medium.

5. One-time per hood use only if in compliance with Cal/OSHA ventilation requirements for laboratory-type hood operations set forth in Title 8, California Code of Regulations, section 5154.1 (c) (2) (B), for the purpose of reducing hood face velocity when the hood is unattended and realizing the associated energy savings. If a gas other than sulfur hexafluoride is allowed under a future revision to Title 8, California Code of Regulations, section 5154.1 (c) (2) (B), this exemption will be void.
6. Medical applications, which includes only the following applications:
 - (A) Injection or other entry of sulfur hexafluoride into the human body for the purpose of improving an aspect of health,
 - (B) Use of sulfur hexafluoride in a diagnostic tool in order to either identify a disease or condition by its outward signs and symptoms or analyze the underlying physiological/biochemical cause(s) of a disease or condition,
 - (C) Use of sulfur hexafluoride in a treatment process for a disease or other medical condition.
7. Testing of nuclear power plant control room emergency ventilation systems every six years in compliance with the Technical Specifications Task Force (TSTF) Specification 448.
8. Equipment calibration.

§ 95342 Definitions:

(a) For the purposes of this article, the following definitions apply:

1. “Arc Quenching Medium” means the use of a material to interrupt an electrical arc.
2. “Cal/OSHA” means the California Department of Industrial Relations, Division of Occupational Safety and Health.

3. “Chamber Cleaning” means the process of using fluorinated gases to remove excess materials from chemical vapor deposition chamber walls to prevent contamination of wafers to be processed.
4. “Chemical Vapor Deposition (CVD)” means deposition of thin films on silicon wafers by placing the wafers in a mixture of gases, including nitrogen or other gas used as a carrier, which react at the surface of the wafers.
5. “Dielectric Medium” means the use of a material that does not conduct electricity but can sustain an electric field, with electrical conductivity of less than a millionth (10^{-6}) of a siemens.
6. “Distributor” means any person who sells sulfur hexafluoride in California excluding sales by an end-user to a recycler or related to the return of the product to the seller.
7. “Etching” means a chemical reactive process for selectively removing material with fluorinated, ionized gases.
8. “Equipment Calibration” means the process of establishing the relationship between a measuring device and the units of measure. This is done by comparing a device or the output of an instrument to a standard having known measurement characteristics.
9. “Executive Officer” means the Executive Officer of the California Air Resources Board, or his or her delegate.
10. “Investment Casting” means the process of casting magnesium into a mold produced by surrounding, or investing, an expendable pattern with a refractory material. Also called precision casting or lost wax process.

11. “Person” means any person, firm, association, organization, partnership, business trust, corporation, limited liability company, company, federal, state, or local governmental agency or public district.

12. “Sand Casting” means the process of producing a part by forming a mold from a sand mixture and pouring molten magnesium into the cavity in the mold.

§ 95343. Restrictions on Sulfur Hexafluoride Use and Sales

(a) **Restrictions:** Except as provided in Sections 95341(Applicability) and 95343(d) (Conditional Exemptions), the following restrictions apply beginning on the dates specified in section 95343 (b):

- (1) *Purchase or Use.* A person may not purchase or use sulfur hexafluoride.
- (2) *Sales.* A person may not sell, supply, distribute, or offer for sale or distribution sulfur hexafluoride for any applications prohibited in this Article.
- (3) *Sulfur hexafluoride in products.* A person may not sell, supply, offer for sale, or manufacture for sale any product which contains sulfur hexafluoride.
- (4) Venting: A person shall not vent Sulfur Hexafluoride.

(b) **Start Dates:** Section 95343(a) will apply after the dates specified in the following Table:

Applications	Start Dates
All applications except those listed below	January 1, 2010
Magnesium Sand Casting	January 1, 2013
Magnesium Investment Casting	January 1, 2013

(c) **Restriction on Possession of Sulfur Hexafluoride:** A person may not own or otherwise possess sulfur hexafluoride after one year of the start dates specified in 95343 except as provided in Sections 95341(Applicability), and 95343(d) (Conditional Exemptions).

(d) Conditional exemptions.

(1) Procedures: A person may apply in writing to the Executive Officer for an exemption claimed under subsections (A) or (B). The application must include supporting documentation that demonstrates the exemption claim, including data and test methods used to generate the data, if applicable. All information submitted pursuant to this section will be handled in accordance with the procedures specified in Sections 91000 *et seq.* of Title 17, Subchapter 4 (Disclosure of Records) of the California Code of Regulations.

(A) Greenhouse Gas Lifecycle. The Executive Officer may allow the use of sulfur hexafluoride if the Executive Officer determines that the user has provided clear and convincing documentation that the use of sulfur hexafluoride will result in less greenhouse gas emissions than the use of all other alternatives and provides equivalent or greater protection to public health. The demonstration must consider lifecycle greenhouse gas emissions such as energy use and calculate emissions based on the average lifetime of the equipment, facility, or process. The user must prove that no other feasible alternative gas or method would provide lower greenhouse gas benefits.

(B) Essential uses with no alternatives. The Executive Officer may allow the use of sulfur hexafluoride if the Executive Officer determines that the applicant has provided clear and convincing documentation that there is no viable alternative to sulfur hexafluoride in the specified use. Acceptable reasons for no alternative include but are not limited to 1) the gas does not serve the same function effectively when tested under appropriate operating conditions or 2) Alternatives are not allowed by other regulatory agencies due to occupational health concerns or air quality or 3) the gas is needed to conduct research and alternatives cannot serve the same purpose. The applicant must provide a mitigation plan to minimize sulfur hexafluoride emissions. The mitigation plan will include a list of actions to

be undertaken to reduce emissions. The plan must include analysis of options to minimize usage, reduce leaks or venting, and recycling or destruction.

(C) Economic Hardship. The Executive Officer may allow the use of sulfur hexafluoride if the Executive Officer determines that the applicant has provided clear and convincing documentation that:

- (1) Beyond the reasonable control of the applicant, compliance would result in extraordinary economic hardship. Extraordinary economic hardship could include closure of the entire operation or a large portion of the operation or loss of a large portion of revenue to businesses outside of California; and
- (2) The public interest in mitigating the extraordinary hardship to the applicant by issuing the variance outweighs the public interest in avoiding any increased emissions of greenhouse gases that would result from issuing the exemption; and
- (3) A compliance report proposed by the applicant can be implemented and will achieve compliance as expeditiously as possible. The compliance report would reasonably detail if and when compliance could be achieved and the method by which the applicant will seek to achieve compliance.
- (4) A mitigation plan as defined in subpart (B).

(2) Schedule.

(A) Within 30 days of receipt of the exemption application the Executive Officer will determine whether an application is deemed complete.

(B) If the exemption application is not deemed to be complete, the Executive Officer will notify the applicant and specify the documentation needed to complete the application.

(C) Within 90 days after an application has been deemed complete, the Executive Officer will determine whether, under what conditions, and to what extent, an exemption from the requirements of this Article will be permitted. The applicant and the Executive Officer may mutually agree to a longer time period for reaching a decision, and additional supporting documentation may be submitted by the applicant before a decision has been reached. The Executive Officer must notify the applicant of the decision in writing and specify such terms and conditions.

(3) Conditions: In granting an exemption the Executive Officer may require best management practices or implementation of the mitigation plan submitted in accordance with Section 95343(d)(2)(B).

(4) Cancellation or Modification of Exemption: If the Executive Officer determines that the use for which an exemption has been granted no longer meets the criteria specified in sections (A) or (B), the Executive Officer may modify or revoke the exemption as necessary to assure that the use meets the criteria. The Executive Officer must not modify or revoke an exemption without first affording the applicant an opportunity for an appeal to determine if the exemption should be modified or revoked.

(5) Applicability of Exemption: The Executive Officer may determine that the exemption should include users in addition to the applicant.

§ 95344 Enforcement

(a) **Sales.** If the Executive Officer determines that a person is manufacturing for sale, advertising for sale, selling, acquiring, or offering for sale in the State of California sulfur hexafluoride that does not comply with the requirements of this Subarticle (*Title 17, Subchapter 10, Article 3, Subarticle 3*), he or she may enjoin the person from any further manufacture, advertisement, sales, offers for sale, or distribution in the state of California pursuant to section 41513 of the Health and Safety code. The Executive Officer may also

assess penalties to the extent permissible under Chapter 4 of Part 6, Division 25.5 of the Health and Safety Code commencing with Section 38580.

(b) **Right of Entry.** An agent or employee of the Air Resources Board has the right of entry to applicable facilities for the purpose of inspecting operations and their records to determine compliance to these regulations.

§95345 Notice to Purchasers

(a) Prior to July 1, 2010, distributors of sulfur hexafluoride must submit documentation that they have provided, to all of their known purchasers of sulfur hexafluoride, true and accurate copies of the final regulation, *Title 17, Subchapter 10, Article 3, Subarticle 3, sections 95340 – 95347*, approved by the ARB and the California Office of Administrative Law.

(b) Acceptable documentation of a mailed notification will include a hard copy of the materials mailed and the associated mailing list with complete contact information for each address submitted to the Executive Officer. Complete contact information includes the retailer name, business name, physical address, contact name, telephone number, fax number, e-mail address, and web site address, as applicable.

(c) Acceptable documentation of an e-mail notification will include a copy of the email and the complete contact information as described in subsection (b) for each email address submitted to the Executive Officer.

(d) Distributors will receive a final copy of the regulation within 60 days of registering with the Executive Officer, as required under section 95346.

§95346 Registration, Recordkeeping, and Reporting Requirements

(a) **Registration for Distributors:** Distributors of sulfur hexafluoride must register with ARB by January 30, 2010 or within 30 days of conducting business in California. This does not include distribution of sulfur hexafluoride contained in products or equipment.

(b) **Requirements for Purchasers:** Purchasers of Sulfur Hexafluoride must provide the distributor annually with a letter stating that the substance will only be used for an allowed use and state the use. Purchasers must also be able to provide proof that any on-site sulfur hexafluoride is for an exempted use or sale to an exempted use.

(c) **Recordkeeping for Distributors:** Distributors must retain invoices for a period of not less than three (3) years that show the retailer name, business name, physical address, contact name, telephone number, fax number, e-mail address, web site address, sale date, the quantity of sulfur hexafluoride purchased, and an annual letter from each purchaser certifying that any and all purchases are for allowed uses. Distributors must also provide records and other sources to ARB upon request by the Executive Officer or his or her designee. Records include copies of all invoices, books, correspondence, electronic data, or other pertinent documents in its possession or under its control that the manufacturer, distributor or retailer retains that are necessary to prove compliance with the requirements of this Chapter.

(d) **Annual Reporting for Distributors:** Starting in calendar year 2010, the distributor must submit an annual report to the Executive Officer by March 30th of the following year. The report must include:

- (1) Total quantity in mass of sulfur hexafluoride sold; and
- (2) A record of transactions of sales to each user of sulfur hexafluoride including the information listed in subsection (c). Records must include the date and amount of each sale.

§95347 Severability

(a) Each part of this section is deemed severable, and in the event that any part of this section is held to be invalid, the remainder of this section will continue in full force and effect.